AMENDMENT TO THE CLAIMS

1. (Currently amended) A method for ~~initializing~~ utilizing, as a memory device, a material (variable-resistance material) whose resistance value increases/decreases according to the polarity of an applied electric pulse, ~~wherein~~ the method comprising the steps of:

(a) in an initial state where the variable-resistance material has not yet been subjected to application of an electric pulse after a film formation, applying an electric pulse having a first polarity ~~is applied~~ at least once between first and second electrodes connected to the variable-resistance material such that the potential of the first electrode is higher than that of the second electrode;

(b) uniquely determining a relationship between the polarity of the electric pulse to be applied between the first and second electrodes and the increase/decrease of the resistance value of the variable-resistance material, according to the polarity of the electric pulse applied in the step (a); and

(c) changing the resistance value of the variable-resistance material to a desired value by selecting the first polarity or a second polarity where the potential of the first electrode is lower than that of the second electrode, according to the relationship determined in the step (b), and applying an electric pulse having the selected polarity between the first and second electrodes to increase/decrease the resistance value of the variable-resistance material.

2. (Currently amended) The method of claim 1, wherein in the step (a) the first electric pulse is repeatedly applied between the first and second electrodes till the variation rate of the resistance value of the variable-resistance material becomes smaller than a predetermined value.

3. (Currently amended) The method of claim 2, wherein in the step (a) after the first electric pulse is repeatedly applied between the first and second electrodes till the variation rate of the resistance value of the variable-resistance material becomes smaller than a predetermined value, an electric pulse having [[a]] the second polarity is applied at least once between first and second electrodes connected to the variable-resistance material such that the potential of the first electrode is lower than that of the second electrode.

4. (Currently amended) The method of claim 3, wherein in the step (a) the second electric pulse is repeatedly applied between the first and second electrodes till the variation rate of the resistance value of the variable-resistance material becomes smaller than a predetermined value.

5. (Currently amended) A method for utilizing, as a memory device, ~~formed using~~ a material (variable-resistance material) whose resistance value increases/decreases according to the polarity of an applied electric pulse, the memory device comprising:

a variable-resistance material to which first and second electrodes are connected; and

a fixed resistor, one end of which is connected to the first or second electrode, and

the method comprising the steps of:

(a) in an initial state where the variable-resistance material has not yet been subjected to application of an electric pulse after a film formation, applying an electric pulse having a first polarity at least once between the first and second electrodes such that the potential of the first electrode is higher than that of the second electrode;

(b) uniquely determining a relationship between the polarity of the electric pulse to be applied between the first and second electrodes and the increase/decrease of the resistance value of the variable-resistance material, according to the polarity of the electric pulse applied in the step (a); and

(c) changing the resistance value of the variable-resistance material to a desired value by selecting the first polarity or a second polarity where the potential of the first electrode is lower than that of the second electrode, according to the relationship determined in the step (b), and applying an electric pulse having the selected polarity between the first and second electrodes to increase/decrease the resistance value of the variable-resistance material, thereby recording information in the variable-resistance material

~~wherein an electric pulse is applied for recording between the first and second electrodes~~.

6. (Currently amended) The memory device of claim 5, wherein the method further comprises a step (d) of reading memory information ~~is read~~ based on a voltage between the first and second electrodes which is obtained when a predetermined voltage is applied between one of the first and second electrodes which is not connected to the one end of the fixed resistor and the other end of the fixed resistor.

7. (Currently amended) The memory device of claim 5, wherein the method further comprises a step (d) of reading memory information ~~is read~~ based on a voltage between the ends of the fixed resistor which is obtained when a predetermined voltage is applied between one of the first and second electrodes which is not connected to the one end of the fixed resistor and the other end of the fixed resistor.

8. (Cancelled)

9. (Currently amended) A method for ~~initializing~~ utilizing, as a memory ~~circuit~~ device, a material (variable-resistance material) whose resistance value increases/decreases according to the polarity of an applied electric pulse,

the memory ~~circuit~~ device including first and second ~~variable resistors~~ variable-resistance materials electrically connected in series between a first terminal and a second terminal,

the first ~~variable resistor~~ variable-resistance material being electrically connected between the first terminal and a third terminal and having a resistance value which increases/decreases according to the polarity of ~~a pulse voltage~~ an electric pulse applied between the first terminal and the third terminal, and

the second ~~variable resistor~~ variable-resistance material being electrically connected between the third terminal and the second terminal and having a resistance value which increases/decreases according to the polarity of ~~a pulse voltage~~ an electric pulse applied between the third terminal and the second terminal,

the ~~initialization~~ method comprising the steps of:

(a) in an initial state where the first and second ~~variable resistors~~ variable-resistance materials have not yet been subjected to application of ~~a pulse voltage~~ an electric pulse after a film formation, applying a first ~~pulse voltage~~ electric pulse having a first polarity between the first terminal and the third terminal at least once and applying a second ~~pulse voltage~~ electric pulse having a second polarity between the third terminal and the second terminal at least once; [[and]]

(b) uniquely determining a relationship between the polarity of the electric pulse applied between the first and third terminals and the increase/decrease of the resistance value of the first variable-resistance material and a relationship between the polarity of the electric pulse applied between the third and second terminals and the increase/decrease of the resistance value of the second variable-resistance material, according to the polarities of the electric pulses applied in the step (a);

~~(b)~~ (c) after the application of the ~~pulse voltages~~ electric pulses at step (a), applying a third ~~pulse voltage~~ electric pulse ~~having a polarity opposite to that of the pulse voltage applied at step (a)~~ at least once to any one of a portion between the first terminal and the third terminal and a portion between the third terminal and the second terminal, the third electric pulse having a polarity opposite to that of the electric pulse applied to the same portion at step (a), thereby making the resistance value of one of the first and second variable-resistance materials in a high resistive state and making the resistance value of the other in a low resistive state; and

(d) complementarily increasing/decreasing the resistance values of the first and second variable-resistance materials so that the resistance value of one of the first and second variable-resistance materials may increase and the resistance value of the other may decrease, by selecting the polarity of the electric pulse applied between the first and third terminals and the polarity of the electric pulse applied between the third and second terminals according to the relationship determined in the step (b) and applying electric pulses having the selected polarities between the first and third terminals and between the third and second terminals.

10. (Currently amended) The method of claim 9, wherein the polarities of the first and second ~~pulse voltages~~ electric pulses applied at step (a) are such that the potential of the first

terminal becomes higher than the potential of the third terminal and the potential of the third terminal becomes higher than the potential of the second terminal or such that the potential of the first terminal becomes lower than the potential of the third terminal and the potential of the third terminal becomes lower than the potential of the second terminal.

11. (Currently amended) The method of claim 9, wherein the polarities of the first and second ~~pulse voltages~~ electric pulses applied at step (a) are such that the potential of the first terminal becomes higher than the potential of the third terminal and the potential of the second terminal becomes higher than the potential of the third terminal or such that the potential of the first terminal becomes lower than the potential of the third terminal and the potential of the second terminal becomes lower than the potential of the third terminal.